GMF Math 10 Geometry Take-Home Assignment Part 1

DUE: May 18, 2012
VALUE: Out of 37

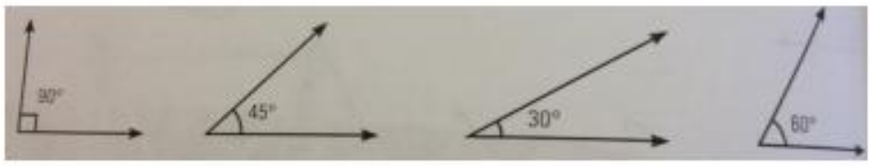
Section 1: Measuring, Drawing, and Estimating Angles

1. **Definitions** **(Value 11)**
   - Create a ***Definitions Section*** which clearly defines each of the following terms (include diagrams where applicable – use your netbooks as needed):
     - Angle, true bearing, angle measure, angle referent, complementary angles, supplementary angles, acute angles, obtuse angles, right angles, reflex angles, straight angle

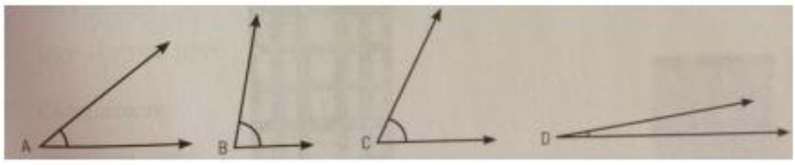
2. **Read example 1 on pages 275-278.** **(Value 6)**
   - follow these directions to:
     a) create a 90° angle
     b) replicate an angle (that is not 90 °)

3. Angle measures range from 0° to 360°. On a piece of paper, draw five angles of various measures, labeling the rays, vertices, and angle. (The rays should be about 5 cm long).
   - For each angle, state: (Value 10)
     - The angle measure
     - The type of angle
     - An example: give an example of where you might see an angle like this in the real world, for example, a rooftop or a vault for gymnastics.

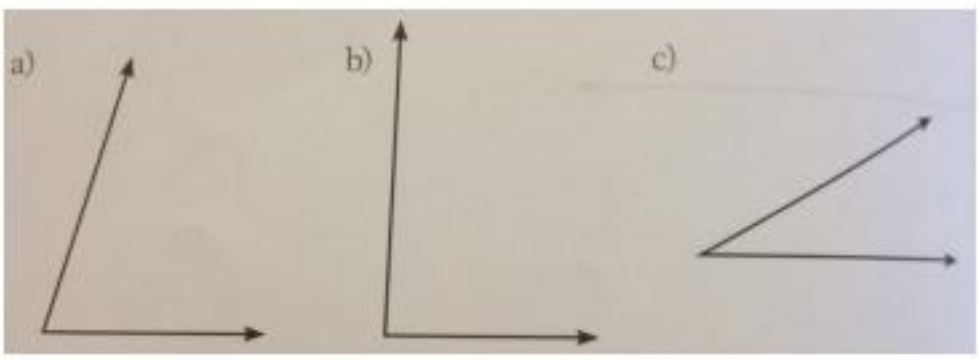
4. **Referent Angles** **(Value 4)**
   - The following are referent angles:



   - Use the referents to determine the approximate size of the following angles.



5. **Read over Pages 288 – 290** **(Value 6)**
   - Bisect these angles using the two methods below:
     - With a compass (arcs for each should be shown)
     - With a protractor



GMF Math 10 Geometry Take-Home Assignment Part 2

DUE: May 25, 2012
VALUE: Out of 14

Section 2: Pythagorean Theorem

Read over text pages 326 -331 for help with this section.

6. **Pythagorean Triples.** **(Value 3)**
   - A) Prove that 15-20-25 are the sides of a right angle triangle. How do you know which side is the hypotenuse?
   - B) Is this a Pythagorean triple?

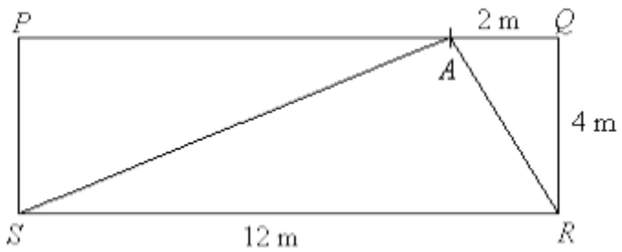
7. **Sketch and then solve the following problem:** **(Value 2)**
A 13 m long wheel chair ramp, leading to an entrance, is being constructed. If the top of the ramp is 4.5 m off the ground, determine the length of the ramp sitting on the driveway.

8. Joanne was given a triangle and asked if it was a right triangle. She felt it was, so she set out to prove it by measuring the sides and using Pythagorean Theorem. Her work is shown below. Did she prove this was a right triangle? Why or why not? **(Value 2)**

$$c^2 = a^2 + b^2$$
$$10^2 = 6^2 + 9^2$$
$$100 = 36 + 81$$
$$100 = 117$$

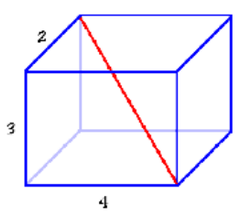
9. A ship leaves port and sail 20km north and then 13 km east. **(Value 3)**
   - Sketch a diagram
   - How far is the ship from port?

10. The rectangle *PQRS* represents the floor of a room. **(Value 4)**



   - Sarah stands at point *A*. Calculate her distance from:
     - A) the corner *R* of the room
     - B) the corner *S* of the room

BONUS (+3)
A wooden box measures 4m×3m×2m. What is the longest straight pole (shown in red) that can fit inside the box?



GMF Math 10 Geometry Take-Home Assignment Part 3

DUE: June 1, 2012
VALUE: Out of 27

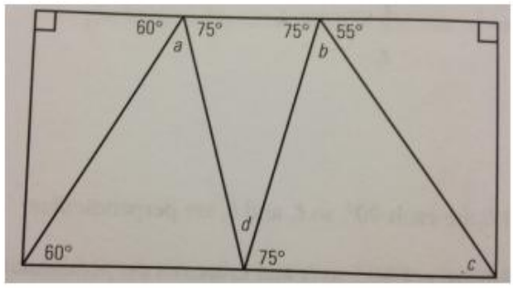
<u>Section 3</u>: Parallel, Perpendicular and Transversal lines, and pairs of angles formed between them.

Read over text pages 310

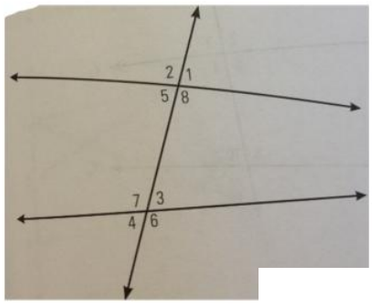
11. **Definitions and Diagrams** **(Value 7)**

- Create a ***Definitions Section*** which clearly defines each of the following terms (include diagrams where applicable – use your netbooks as needed):
    - Vertically opposite angles, transversal, corresponding angles, alternate interior angles, alternate exterior angles, and interior angles on same side of transversal and exterior angles on same side of transversal

12. A carpenter is inlaying different types of wood on a tabletop. What must be the size of angles a, b, c, and d? **(Value 4)**

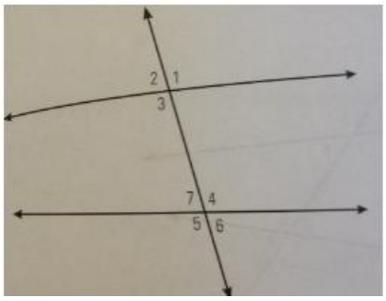


13. In the diagram to the right, identify the relationship between each pair of angles. **(Value 4)**



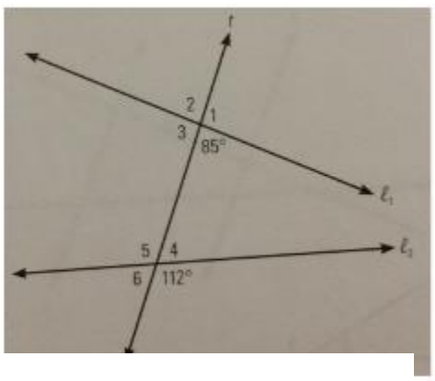
a) <7 and <8
b) <2 and <7
c) <1 and <6
d) <5 and <7

14. Given the diagram to the right, identify the following angles.



a) an alternate exterior angle to <2 **(Value 4)**
b) an interior angle on the same side of the transversal as <7
c) an alternate interior angle to <4
d) an angle corresponding to <5

15. In the diagram to the right, calculate the sizes of each of the interior angles. What is their sum? **(Value 4)**



1 –
2-
3-
4-
5-
6-
Sum of each set:

16. Given the diagram to the right, identify all the pairs of parallel lines and explain your selection. **(Value 4)**